

DUPLEX-DIODE TRIODE

FOR DETECTOR AND AF VOLTAGE-AMPLIFIER APPLICATIONS

DESCRIPTION AND RATING

The 6FM8 is a duplex-diode, high-mu triode with separate cathodes for each of the diode sections and the triode section. The tube is designed primarily for use as an FM detector and AF voltage amplifier.

ELECTRICAL

Cathode—Coated Unipotential	
Heater Voltage, AC or DC.....	6.3 Volts
Heater Current.....	0.45 Amperes
Direct Interelectrode Capacitances*	
Triode Grid to Plate.....	1.8 μmf
Triode Input.....	1.5 μmf
Triode Output.....	0.16 μmf
Grid to Diode-Number 1 Plate.....	0.05 μmf
Grid to Diode-Number 2 Plate.....	0.04 μmf
Diode-Number 1 Input.....	2.4 μmf
Diode-Number 2 Input.....	2.2 μmf
Diode-Number 1 Cathode to All.....	4.6 μmf
Diode-Number 2 Cathode to All.....	4.8 μmf

GENERAL

MECHANICAL

Mounting Position—Any
Envelope—T-6½, Glass
Base—E9-1, Small Button 9-Pin

MAXIMUM RATINGS

DESIGN-MAXIMUM VALUES

Allowable Heater Voltage.....	5.7 to 6.9 Volts
Plate Voltage.....	330 Volts
Positive DC Grid Voltage.....	0 Volts
Plate Dissipation.....	1.1 Watts
Heater-Cathode Voltage	

Heater Positive with Respect to Cathode

DC Component.....	100 Volts
Total DC and Peak.....	200 Volts

Heater Negative with Respect to Cathode

Total DC and Peak.....	200 Volts
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Diode Current for Continuous Operation, Each Diode.....5.0 Milliamperes

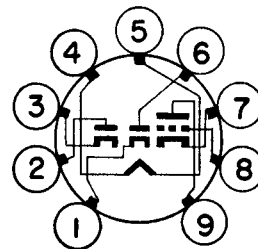
Design-Maximum ratings are limiting values of operating and environmental conditions applicable to a bogey tube of a specified type as defined by its published data, and should not be exceeded under the worst probable conditions.

The tube manufacturer chooses these values to provide acceptable serviceability of the tube, taking responsibility for the effects of changes in operating conditions due to variations in tube characteristics.

The equipment manufacturer should design so that initially and throughout life no design-maximum value for the intended service is exceeded with a bogey tube under the worst probable operating conditions with respect to supply voltage variation, equipment, component variation, equipment control adjustment, load variation, signal variation, and environmental conditions.

The tubes and arrangements disclosed herein may be covered by patents of General Electric Company or others. Neither the disclosure of any information herein nor the sale of tubes by General Electric Company conveys any license under patent claims covering combinations of tubes with other devices or elements. In the absence of an express written agreement to the contrary, General Electric Company assumes no liability for patent infringement arising out of any use of the tubes with other devices or elements by any purchaser of tubes or others.

BASING DIAGRAM

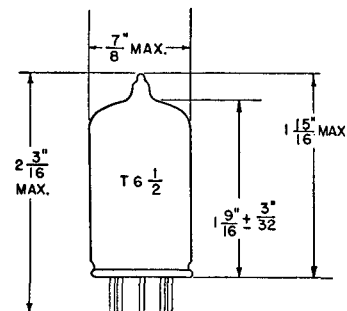


EIA 9KR

TERMINAL CONNECTIONS

- Pin 1—Diode Number 2 Cathode
- Pin 2—Diode Number 1 Plate
- Pin 3—Diode Number 1 Cathode
- Pin 4—Heater
- Pin 5—Heater
- Pin 6—Diode Number 2 Plate
- Pin 7—Triode Cathode
- Pin 8—Triode Grid
- Pin 9—Triode Plate

PHYSICAL DIMENSIONS



EIA 6-2

CHARACTERISTICS AND TYPICAL OPERATION

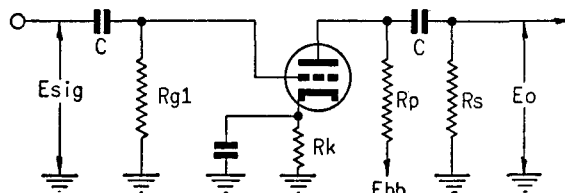
CLASS A₁ AMPLIFIER

Plate Voltage.....	250	Volts
Grid Voltage.....	-3.0	Volts
Amplification Factor.....	70	
Plate Resistance, approximate.....	58000	Ohms
Transconductance.....	1200	Micromhos
Plate Current.....	1.0	Milliamperes
Average Diode Current, Each Diode With 5.0 Volts DC Applied.....	20	Milliamperes

*Without external shield.

CLASS A RESISTANCE-COUPLED AMPLIFIER

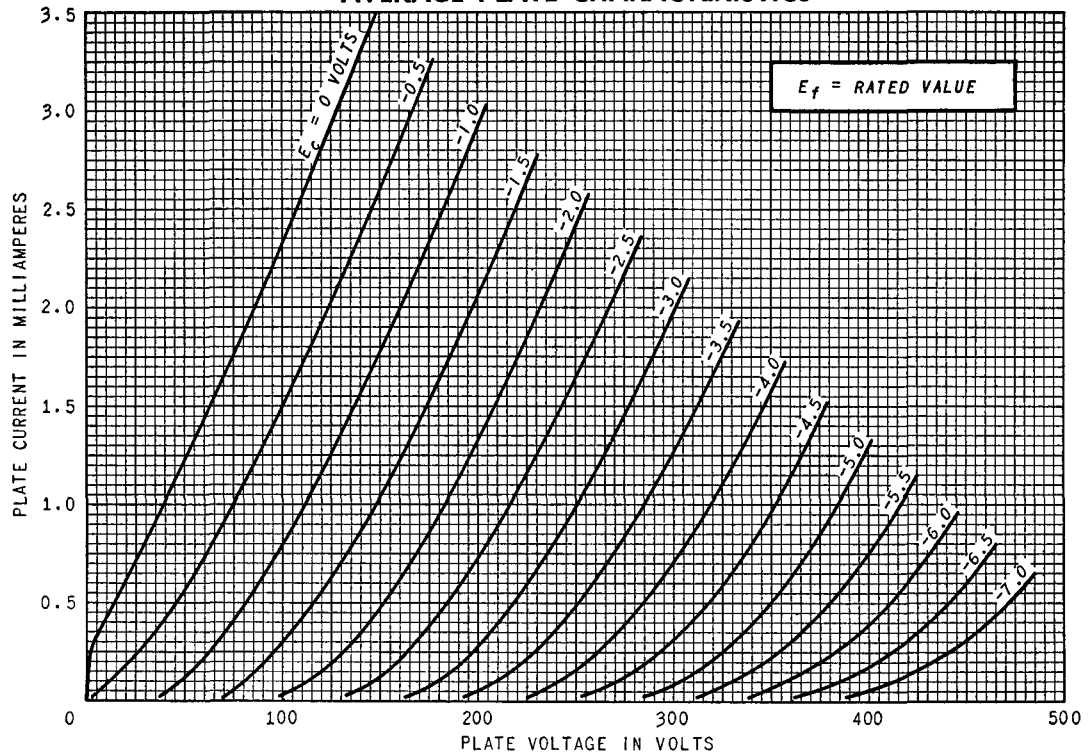
Rp Meg.	Rs Meg.	Rg1 Meg.	Ebb = 90 Volts			Ebb = 180 Volts			Ebb = 300 Volts		
			Rk	Gain	Eo	Rk	Gain	Eo	Rk	Gain	Eo
0.10	0.10	0.10	5700	21	7.0	2400	29	18	1800	33	35
0.10	0.24	0.10	6100	26	9.0	2700	34	23	2000	38	42
0.24	0.24	0.10	9100	30	10	4300	40	24	3000	44	43
0.24	0.51	0.10	10000	34	13	4700	45	31	3300	49	52
0.51	0.51	0.10	15000	37	14	7500	47	28	5600	51	50
0.51	1.0	0.10	16000	40	16	8200	50	35	6200	55	60
0.24	0.24	10	0	31	5.0	0	44	19	0	48	40
0.24	0.51	10	0	37	7.0	0	49	25	0	52	52
0.51	0.51	10	0	39	7.5	0	51	22	0	54	44
0.51	1.0	10	0	42	10	0	54	28	0	58	56



Note: Coupling capacitors (C) should be selected to give desired frequency response. Rk should be adequately by-passed.

Notes: 1. Eo is maximum RMS voltage output for five percent (5%) total harmonic distortion. 2. Gain measured at 2.0 volts RMS output. 3. For zero-bias data, generator impedance is negligible.

AVERAGE PLATE CHARACTERISTICS



AVERAGE TRANSFER CHARACTERISTICS

